

NOTES AND NEWS.

DR. B. D. HALSTED is spending his winter vacation at Passaic, N. J., his old home.

"THE CONCEPTION of species in cryptogamic botany" is the title of a paper by Dr. W. G. Farlow read before the Boston Society of Natural History at its November meeting.

IT HAS BEEN found that herbivorous fish aid largely in disseminating algæ, numerous species being found in the stomachs of such fish. Very often the fertile portions are eaten and the viable spores voided.

DR. J. W. ECKFELDT and W. W. Calkins have begun an enumeration of the lichen flora of Florida in the *Journal of Mycology* for November. The first installment embraces 146 numbers, and reaches *Cænogonium*.

A SEPARATE author's edition of the report for 1886 of the mycologist to the U. S. Department of Agriculture, Prof. F. L. Scribner, has been distributed. It contains forty-four pages, seven plates, three maps and one diagram.

DR. HERMANN VÖCHTING has been called to the Professorship of Botany in the University of Tübingen, and Dr. Klebs, privat docent at Tübingen, to the professor's chair at the University of Basel, vacated by Dr. Vöchting.

IN THE August GAZETTE (p. 199) we made the unintentional blunder of announcing that Dr. DeBary had been appointed professor at Leipzig to succeed Prof. A. Schenk. Instead of Dr. DeBary, it should have read Prof. Pfeffer.

REV. F. D. KELSEY, of Helena, Montana, recently delivered a lecture before the teachers' institute of Lewis and Clarke counties, entitled, "A bird's-eye view of botany," in which he gave an outline of the history of botany and an explanation of modern classification.

THE Western Pennsylvania Botanical Society, of Pittsburgh, has elected the following officers for the coming year: John D. Shafer, president; Dr. A. Koenig, vice-president; Miss Willa Matthews, recording secretary; Prof. B. H. Patterson, corresponding secretary; C. C. Mellor, treasurer.

SOME marked differences between the typical *Acer saccharinum* and the variety *nigrum* are pointed out and illustrated by Prof. L. H. Bailey, Jr., in *Popular Gardening* for November. The chief differences lie in the shape and size of the fruit, and in the contour and habit of the leaves.

THE ELECTRIC lighting of the Winter Palace at St. Petersburg has brought great damage to the ornamental plants used for decoration. The complete illumination of the room for a single night is enough to cause the leaves to turn yellow, dry up, and ultimately to fall off. The celebrated collection of palms has especially suffered.

A NEW weekly journal of horticulture, landscape gardening and forestry, entitled *Sylva*, is to be started early in the new year, under the editorship of Prof. Charles S. Sargent, of Harvard College. It aspires to be an authority on questions coming within its scope, and will prove a welcome addition to scientifico-practical literature.

THE NEW fossil group, *Bennettites*, recently described by Count Solms-Laubach as between angiosperms and gymnosperms, accord with cycads in vegetative structure, but possess undoubted gymnospermous fruits.

THE OCTOBER number of the *Journal of the Royal Microscopical Society* contains a monograph of the genus *Lycoperdon* by G. Masee, F. R. M. S. Mr. M. recognizes 129 species, of which 49 are found in Europe and 26 in the United States. Doubtless, the revision of the puff-balls of the United States, which we may expect at an early day from the pen of Dr. William Trelease, will modify this estimate materially.

A COURSE of five lectures on the dissemination of plants by Dr. William Trelease, Director of the Shaw School of Botany, has been announced. The course began on November 18th, and is to be continued on Friday evenings. Dr. Trelease has collected numerous illustrations for this series, both from the works of others and his own studies, and the synopsis of the lectures promises a most interesting course.

MR. C. R. ORCUTT, of San Diego, Cal., desires to secure young, active men, with enthusiasm for natural history work, and with scientific training, as well as older and more experienced scientists, to collect for him in all departments in Lower California, Western Mexico and Central America. It is not a financial venture, and little more than expenses need be expected, but due credit will be given collectors for their work.

C. C. BABINGTON, in a review of Professor Areschoug's paper on the genus *Rubus*, in *Journal of Botany*, remarks that "it is far too thoroughly pervaded by the theory of evolution to be quite satisfactory to those who continue to look upon that as a *theory rather than a fact*." (Italics in the original.) The student of European Rubi who is not tainted with evolution has a faith in the fixity of species that very few things could shake.

DR. ROBERT CASPARY, director of the Botanical Garden, Königsburg, died September 18, from the effects of a fall. He was born at Königsburg, in 1818, and was originally an assistant professor at Bonn. His original work was chiefly anatomical, and the best known was his *Monograph on Water-Lilies*, a model of fullness and accuracy. He first pointed out the distinction of the endodermis or bundle-sheath. He also made a thorough investigation of the flora of Prussia.

THE SYNTHETICAL production of glucose by Drs. Fischer and Tafel in the chemical laboratory of the University of Würzburg, recently announced in the *Berichte*, and referred to in *Nature* and *Science*, adds another to the list of vegetable products which can be formed artificially. Glucose is one of the most important substances having to do with the nutrition and growth of plants, and the discovery may confidently be expected to lead to valuable additions to the present knowledge of chemical changes within the living plant.

THE OROBANCHACEÆ have lately had full treatment at the hands of two investigators. M. Maurice Hovelacque presented to the French Academy of Sciences, recently, two notes,¹ entitled "Développement et valeur morphologique du suçoir des Orobanches," and "Sur le développement et la structure des jeunes Orobanches," while Dr. Ludwig Koch has just published² a book of nearly 400 pages on the "Entwicklungsgeschichte der Orobanchen, mit besonderer Berücksichtigung ihrer Beziehungen den Culturpflanzen."

¹Comptes Rendus, cv. 470-473 and 530-533. (Sept., 1887.)

²Heidelberg, 1887. Winter's Universitäts buchhandlung.

PROF. JOHN MACOUN is now engaged on Part IV of his "Catalogue of Canadian Plants," which will be published next spring. It will contain the ferns and their allies, including the charas. Part V, to follow, will contain the lower cryptogams. Centuries of these are to be issued, determined by the most eminent authorities. The first century is about ready for distribution.

J. KRUTTSCHNITT, of New Orleans, has been making some observations on "Sarraceniaceæ or Pitcher Plants." Among them we quote the following: "The fly has evidently a task to perform in connection with the Sarraceniaceæ; it consists in exciting the plant to certain actions by the gentle friction exerted by the padded foot of the fly." Objecting to the theory of development, it is said, "the Sarraceniaceæ, after it has obtained its full growth, is brought into intimate connection with the fly; but the fly derives apparently no advantage from the Sarraceniaceæ." It is to be hoped that these valuable observations will be continued.

G. KARSTEN has discovered that under certain circumstances *Fegatella* (*Conocephalus*) *conica* reproduces by gemmæ. These gemmæ are only formed when the conditions are unfavorable for growth and the thallus is about to die. The whole vegetative strength is then concentrated upon the development of one or two globular gemmæ on the midrib beneath, which arise from the division of cells of the epidermis or the subjacent layer. Upon the return of suitable conditions for growth these gemmæ send out rhizoids and extend their single growing point into a narrow thallus, which, after attaining a certain length, suddenly broadens to the normal width. (See *Bot. Zeitung*, xlv, 649, Oct. 7, 1887.)

SEVERAL METHODS for preparing orchids for the herbarium so as to preserve their colors have been tried by R. Hegler, and the results given in the *Deutsche botanische Monatsschrift*. Salicylic acid was used with good success by dusting the dry substance upon the plants as they lie in the press. When they are taken out of the press the salicylic acid is removed from the flowers with a brush, and can be used for other plants. It specially preserves the intensity of the red colors. Powdered boracic acid may be used in the same way with nearly as good results. A solution of one part salicylic acid to fourteen parts of alcohol, applied by moistening pieces of blotting paper and placing them above and below the flowers in the press, or by wetting absorbent cotton and putting it in and about the flowers, forms a simple method of attaining the same end.

Mr. F. W. OLIVER has investigated the mode of conduction of the irritation in the stigmas of *Martynia lutea* and *proboscidea* and *Mimulus luteus* and *cardinalis*, and believes it to be due to the continuity of protoplasm from cell to cell, which he was able to demonstrate by Gardiner's method of sulphuric acid and Hoffmann's blue. In both the genera mentioned the tissue of the stigma consists of two lamellæ, which are sensitive to contact on the inner side only. The internal tissue of the lamellæ is composed of 15 to 20 layers of excessively thin-walled prismatic cells, with a great development of intercellular spaces. Between the lower and upper epidermis of the lamellæ runs a simple axile vascular bundle of spirally thickened tracheids. The bundles from the two stigmas do not unite before they reach the ovary. The irritability is confined to several layers of the prismatic cells of the inner side of the lamellæ, and it is here that the continuity of protoplasm from cell to cell was determined. . . . That the conduction does not take place through the vascular bundle was demonstrated by the fact that it was not affected by cutting the bundle.—*Jour. Roy. Mic. Soc.*

AN EXCERPT from *Comptes Rendus*, cv, p. 473 (although such source is not stated), giving an account of the new rot of the grape, *Greeneria fuliginea*, found in North Carolina by Messrs. Scribner and Viala, has been distributed. It states no facts in addition to those in the paper read by the authors before the Society for the Promotion of Agricultural Science.

T. F. BOURDILLON, writing to *Nature* from India, describes the fertilization of the coffee plant. It is protogynous and chiefly fertilized by bees, though somewhat visited by night-flying insects and butterflies. "Owing to all the plants of one clearing being usually grown from seed of a single estate, there must be a great deal of interbreeding, more especially as all the coffee of Ceylon and most of S. India is supposed to be descended from a single plant introduced into Batavia about two centuries ago." He suggests that this may have something to do with the deterioration of the younger coffee.

THE PROCEEDINGS of the Society for the Promotion of Agricultural Science have been printed and distributed with remarkable promptness, the credit for which is due the efficient secretary, Prof. W. R. Lazenby. Besides the nine papers mentioned in the September GAZETTE, the volume also contains the following articles of botanical interest: "A study of *Poa pratensis*," by W. J. Beal, in which the author seeks to determine whether the variations in growth are due to external or internal influences, but has neglected to state his conclusions. "A disease of broom-corn and sorghum," by T. J. Burrill, is a description of a disease of considerable economic importance, which the author traces by pure cultures and inoculations to a specific bacillus, whose appearance and transformations are described. It is a very important contribution to the subject of true bacterial parasites in plants. "Some botanical and horticultural generalizations," by E. Lewis Sturtevant, relate to the origin and stability of cultivated varieties. "Some crosses in corn," by A. A. Crozier, gives the result of observation and experiment, showing that "foreign pollen affects the appearance of the crossed kernels the first season, but also that an unusual appearance may be due to a cross of a previous year."

SINCE this number of the GAZETTE has gone to the printers, Dr. Asa Gray has been taken seriously ill. Late word from Cambridge indicates no change, but we hope for the best.